

What is Claimed Is:

1. A method of locking an address table within a network switch comprising the steps:  
allocating prescribed time slots for accessing the address table to various components of the multiport switch;  
determining, during a time slot allocated to a designated component, if any of the other components are currently transacting with the address table;  
locking out the designated component from accessing the address table, if one of the other components is currently transacting with the address table; and  
allowing the designated component access to the address table if none of the other components are currently transacting with the address table.
2. The method of Claim 1, further comprising the steps:  
if one of the other components is currently transacting with the network switch, then:  
waiting until a next time slot is allocated to the designated component; and  
repeating the step of determining and the step of accessing.
3. The method of Claim 1, further comprising a step of asserting a lock signal prior to the designated component accessing the address table to indicate that the designated component is currently transacting with the address table.
4. The method of Claim 1, further comprising a step of outputting lock indication signals to all other components of the network switch to indicate that the designated component is currently transacting with the address table.
5. The method of Claim 1, wherein the address table contains plural entries, and further comprising a step of specifying which of the plural entries is being accessed by the designated component.
6. The method of Claim 5, wherein:

the step of determining includes a step of determining if any components of the network switch are transacting with a selected entry within the address table; and

the step of accessing includes a step of accessing the selected entry, by the designated component, only if none of the other components are currently transacting with the selected entry.

7. The method of Claim 1, wherein in response to a central processing unit (CPU) requiring access to the address table, the step of determining comprises the steps:

placing a request to access the address table through a processor interface that interfaces the CPU to the network switch; and

determining, by the processor interface, if any other components of the network switch are currently transacting with the address table.

8. The method of Claim 7, further comprising the steps:

locking the address table if none of the other components are currently transacting with the address table; and

informing the CPU that the address table is available for use.

9. The method of Claim 8, wherein the step of informing comprises a step of setting an

acknowledge bit in a register of the processor interface for indicating to the CPU that the address table is not being used.

10. An arrangement for controlling access to information stored within a network switch comprising:

an address table for storing entries that contain addresses of network stations connected to the network switch;

a plurality of components capable of accessing said address table; and

a scheduler for allocating prescribed time slots to said plurality of components for accessing said address table;

each of said components being configured for determining if any other components are currently transacting with said address table during its allocated time slot, and accessing said address table if none of the other components are currently transacting with said address table.

11. The arrangement of Claim 10, wherein when said address table is being accessed, a designated component of said plurality of components is configured to wait until said scheduler allocates another time slot to said designated component in order to determine if any other components are currently transacting with said address table.
12. The arrangement of Claim 10, wherein a designated component of said plurality of components is configured to assert a lock signal indicating that said designated component is currently transacting with said address table.
13. The arrangement of Claim 12, wherein said designated component is further configured to output a lock indication signal to all other components of said network switch, said lock indication signal indicating that said address table is currently being accessed.
14. The arrangement of Claim 13, wherein said lock indication signal specifies which entry in said address table is being accessed.
15. The arrangement of Claim 10, further comprising:
  - a CPU connectable to said network switch; and
  - a processor interface for interfacing said CPU to said network switch, said processor interface being configured to:
    - receive requests to access said address table from said CPU;
    - determine if any components of said network switch are currently transacting with said address table, and
    - indicate to said CPU that said address table is available for use if no other components of said network switch are currently transacting with said address table.
16. The arrangement of Claim 15, wherein:
  - said processor interface is configured to set an acknowledge bit to indicate that said address table is not being used; and

said CPU is configured to access said address table upon detecting that said acknowledge bit is set.